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|  | *Upper Canada District School Board* |

**Inclusion in the 21st Century**

Smart Inclusion: From Vision into Practice

**Background**

In September 2008, twelve (12) classrooms in 10 schools across the Upper Canada District School Board (UCDSB) were identified as Smart Inclusion pilot classrooms. A Ministry of Education Special Equipment Allowance (SEA) grant had been pursued in the spring to purchase equipment for one student in each classroom identified as having a severe communication disability. This equipment included a Smart Board along with a variety of application software and other AAC (augmentative and alternative communication) tools. These tools were considered essential to augment and assist not only communication *but meaningful educational and social participation in the classroom setting for the student with severe disabilities*. Ontario’s Equity and Inclusive Education strategy “…is designed to support an education system where all students in our publicly funded schools have the opportunity to achieve their highest potential.”[[1]](#footnote-1). Our work in 2008-2009 was undertaken to look at the use of technology to support (1) communication and (2) inclusive classroom programming.

The use of interactive whiteboard technology in schools is not new, nor is the use of assistive technology for students with disabilities. However, UCDSB is leading the way provincially, nationally and internationally in the integration of Smart technology with special needs software, and using best practices from Speech Language Pathology and Education to promote inclusion for students with special educations needs. Currently, school systems are becoming better versed in the use of Universal Design for Learning (UDL) and Differentiated Instruction (DI) particularly as the L4All K-12 Ministry of Education final document nears release. This document focuses on using UDL and DI to create learning environments that meet the needs of all students including those with significant “learning challenges”; including students with special education needs in regular classrooms, learning alongside typically developing peers. When students with special needs are included in regular classroom activities they must not simply be present working on alternative and/or individual programs. They must be *active participants* in learning academic content in relevant areas (reading, spelling, writing, math, PE, music etc.); they should be given opportunities to form social relationships and friendships with peers; and they must acquire relevant, functional skills in non-academic areas. *The goal for all students is meaningful educational and social participation.*  Much of the time students with special education needs, including those who use AT and AAC, can participate in the same classroom activities as their typical peers AND do work that meets their individual learning needs and goals - inclusion without participation is not inclusion at all. This is the essence of inclusive education and the philosophy behind the Participation Model originally developed by Rosenberg and Beukelman (1988); revised by Beukelman and Mirenda[[2]](#footnote-2). The Model starts with identifying barriers for inclusion in any given activity and setting, and then looks at methods and tools to remove or circumvent the barriers, thus enabling participation (inclusion). The model extends UDL and DI so that even our most “disabled” or “challenged” students can participate at some level with peers e.g., even by universally designing an environment and set of activities, and differentiating instruction and assessment, there will be some students whose needs (some or all) may still not be met. The Participation Model addresses how to identify the barriers to inclusion that still exist, and captures those who fall through that UDL/DI net. Programming for students with special needs by using the Participation Model framework is collaborative. It includes teachers, educational assistants, professional services staff, students and parents in setting academic and social goals. It is student-centred, goal focused, and process-oriented.

Technological assists, like interactive whiteboards (Smart Boards), can be used as one tool in a classroom committed to inclusion and universal design while meeting the needs of students with exceptional learning needs. *Tools and technology are useful* *relative to learning goals and should not be confused with the practices, approaches, and beliefs that guide inclusion.* We might use very specific tools and strategies to work with students who have disabilities, yet how we think about and treat these students should be consistent with how we think about and treat all students. The appeal and increasing popularity of interactive whiteboards has enabled the UCDSB team to use technological assists as a leverage to promote inclusive classroom practices.

**Pilot Project**

Trillium Lakelands District School Board (TLDSB) has shown that using Smart Boards for AAC students provides an unexpected experience of creating a language-literacy/communication immersion environment *for the whole class*, not just the non-verbal student. This is “necessary for some, good for all” in (best) practice. UCDSB extended the work of Trillium-Lakelands by (1) developing demonstration classrooms for best practices in AAC/Technology use in inclusive learning environments, and (2) using the Participation Model as a framework within which teachers could program to maximize inclusion using technological assists. Smart Inclusion provides school teams with the theoretical underpinnings, and technological and training supports necessary, for successful inclusion of all students.

Student participation and achievement were tracked during the 2008-2009 school year for 16[[3]](#footnote-3) students identified with severe disabilities and communication difficulties. Teachers, other school staff, and administrators were interviewed and completed questionnaires related to their classrooms, school-wide practices, and experiences with this pilot. Speech Language Pathologists have been completing pre and post testing which will be complete by mid-October 2009.

**Findings thus far suggest the following[[4]](#footnote-4):**

* Special needs students participated with peers during regular classroom activities to a greater degree in 2008-2009 compared to the previous school year.
* ALL students were highly engaged in classroom activities using Assistive and Smart Technology.
* Special needs students were not only engaged and participating in classroom programming with peers, but were meeting their IEP goals *and more*. Teachers had to increase learning expectations for those students exponentially.
* Standardized language assessment pre and post data available for 5 students thus far reveal that all students had experienced growth in their speech and language skills, where growth had been much slower or stalled when compared to previous years[[5]](#footnote-5).
* Teachers reported that they were doing “more teaching, less behaviour management” *with the entire class*. Significant decreases in referrals to the office and serious behavioural incidents were reported for several identified students where behaviour had significantly impacted classroom participation and learning in previous years. Improved attendance for special needs students was also reported for some students.
* Teachers reported that diagnostic assessments, on-the-spot assessment, were enabled and helped inform program (precision teaching).
* Classroom teachers began using what was previously thought to be “special needs” software with *all* students. This is leading to exciting partnerships with IT and curriculum.
* School reform – we have seen revisions to school success plans to include use of assistive technology: “necessary for some, good for all” as a means to promote inclusive practice.

The Smart Inclusion project appears to be pulling/building pedagogical practice within Smart classrooms which is, in turn, “infecting” other classrooms within schools. Entire schools began talking about instruction; talking about inclusion. Inclusion is a school reform issue, not a special education issue. Teams were working collaboratively to transform schools into educational settings that “welcome everyone, all of the time, everywhere." Piloting a small number of classrooms created “proof of concept” enabling Principals to “take the calculated risk” of integrating Smart Inclusion theory and technology into more classrooms within their schools.

Over the course of the 2008-2009 school year we appeared to reach a “Tipping Point”[[6]](#footnote-6) with respect to this project, inclusion, and technology-use in schools. The UCDSB Smart Inclusion pilot generated a great deal of discussion and excitement Board wide, province wide, nationwide and internationally. We presented internally to many departments and groups at UCDSB; externally to Council of Ontario Directors of Education; Geneva Centre in Toronto; Bridges Technology in Education Conference, the Ministry AT 4 ALL Conference, Smart Technologies in Ottawa and the Assistive Technology Industry Association Conference in Chicago (upcoming October 2009). Six different Boards of Education in Ontario are following our project closely, and more and more requests for information arrive weekly from within and outside Ontario.

Futuresource (see [www.Smarttech.com](http://www.smarttech.com) - recent media releases) states that 1 in 5 classrooms world-wide will be using Smart technology by the end of 2013. As new technology enters schools, it is important to provide school teams with the theoretical underpinnings and training support necessary to make technology accessible to *all* students. This pilot provided a framework for “pushing and pulling” pedagogy and school reform at this critical juncture of technological advancement in schools. Classrooms now contain students with such a variety of skills and abilities, needs and interests; and some students have significant learning “challenges”.

**Moving Forward – Next Steps**

*"****Participation*** *in education involves going beyond access. It implies learning alongside others and collaborating with them in shared lessons.  It involves active engagement with what is learnt and taught, and having a say in how education is experienced.  But participation also involves being recognised for oneself and being accepted for oneself.  I participate with you when you recognise me as a person yourself, and accept me for who I am."   Booth, T. & Ainscow, M.  (2002). Index for Inclusion: Developing Learning and Participation in Schools.  Centre for Studies on Inclusive Education (CSIE).* [*http://www.inclusion.org.uk*](https://access.ucdsb.on.ca/f5-w-687474703a2f2f6f77612e6564752e75636473622e6f6e2e6361$$/owa/redir.aspx?C=3b6595f8dba04029a936c3711cb93e32&URL=http%3a%2f%2fwww.inclusion.org.uk)*.*

That some students have significant learning “challenges” is not in question. However, the “challenges” lie with us – to universally design classrooms, school communities, and pedagogical practice that reaches and teaches all students. We have expanded our work for 2009-2010 to include 38 more students under the Smart Inclusion “umbrella”. We are continuing our focus on pairing assistive technology and training with support for inclusive classroom practice and starting to look at the link between stages of technology uptake and understandings-implementation of inclusive practices in classrooms across 30 schools. We would now like to move beyond one or two classrooms within a school to entire schools whose focus is on “Inclusion for the 21st Century”. In order to focus on whole schools, we need to see every classroom in a school equipped with the technology that enables our Smart Inclusion focus. We have identified three schools where Administration have made significant commitments to school reform, expressed a strong interest in making Inclusion a school-wide focus, have made a commitment to set high expectations for the learning of all students, share a vision that all students belong and should participate fully in all aspects of the school environment, and are expressing a desire to move “from vision into practice”. Our goal is to equip these schools with Smart Boards, document cameras[[7]](#footnote-7), access to special needs software[[8]](#footnote-8), and provide training supports to move from inclusive classrooms to inclusive schools. We intend to create best practice sites; the role of professional development and the opportunity to learn from other schools has been shown to contribute to movement toward inclusion.[[9]](#footnote-9)

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| **Smart Technologies**  Equipment donation to assist us in moving from “Vision into Practice”   * 16 Smart Boards (SmartBoard 680 with Unifi 55 projector-SB680i3) * 16 Wall mounts (SMAASBNA) * 16 sets speakers (USB Audio System for Smart 600 series) * 16 Bluetooth Wireless Connections (SMAAC6NA) * 16 Smart Document Camera’s (SMAVSDC280) |

**Smart Inclusion: From Vision into Practice**

A recent poll conducted byQueens University[[10]](#footnote-10) in south-eastern Ontario found 52% of respondents were positive about inclusion of students with intellectual disabilities in regular classroom settings. On the other hand, 42% percent believed that education in special schools (segregation) was best. Respondents felt that inclusion in regular classrooms would lead to discipline challenges; learning would be more difficult for all other students; schools would over extend resources; and teachers would not be prepared. There is ample research evidence to show that these beliefs are not supported[[11]](#footnote-11) and there is also evidence to suggest that innovations introduced into regular classrooms to accommodate students with mild disabilities directly benefit typically developing students[[12]](#footnote-12) . Another recent literature review conducted by Heather Stuart and Gabrielle Young**[[13]](#footnote-13)** revealed that “What emerges from this literature is a varied landscape whereby best practices for the education of all students are inextricably linked to inclusive education for students with disabilities.” (p. 2) Obviously there is a need to make what is known about inclusion more accessible and understood by the general public (which includes teachers), and to continue to address these widely held assumptions through further research.

Finally, Soodak et al[[14]](#footnote-14) write, “…personal efficacy was found to relate to anxiety as well as hostility toward inclusion... The findings indicate that when teachers have a greater sense of their personal efficacy, they are less anxious about inclusion. Interestingly, opportunity to collaborate with other teachers mediates the relation of teachers’ efficacy beliefs and their feelings of receptivity toward inclusion. Teachers who did not perceive themselves as having opportunities to collaborate had greater hostility toward inclusion associated with low personal efficacy” (p. 493).

**Research Purpose**:

*Wikipedia Entry:* ***“Action research*** *is a* [*reflective process*](http://en.wikipedia.org/wiki/Reflective_process) *of progressive* [*problem solving*](http://en.wikipedia.org/wiki/Problem_solving) *led by individuals working with others in teams or as part of a "*[*community of practice*](http://en.wikipedia.org/wiki/Community_of_practice)*" to improve the way they address issues and solve problems. Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices, and knowledge of the environments within which they practice. As designers and stakeholders, researchers work with others to propose a new course of action to help their community improve its work practices.”*

Give teachers time and space to explore pedagogy, curriculum, students and technology, and learn from them about how they go about creating inclusive classrooms and inclusive school communities.

We see this action research evolving over two and a half school years: December 2009 through June 2012.

**Foci:**

1. Understand the nature of and interrelationship between two dimensions/continuums of inclusive classrooms: Technology Adoption/Use and Student Participation (inclusion within classroom community-of-learners).
2. Understand the nature of and interrelationship among technology adoption/use, student participation in classrooms, and teacher beliefs about inclusion and disability. Is there an inter-dependent relationship between teacher belief and teacher adoption and implementation of assistive technologies? How does this (do these) relate to development of inclusive classrooms?
3. Identify best practices[[15]](#footnote-15) that move classrooms and schools along these dimensions (technology; participation/inclusion; attitudes/beliefs) and
4. Describe how these contribute to the development of supportive school communities where “everyone is welcome everywhere all the time”.

**Outcome**s:

* Test/Develop/Refine Rubrics that define continuums for Technology Adoption/Use; Use of UDL/DI/Participation Models in classroom set-up and programming.
* Description of the role of technology in: student engagement and learning, teacher professional growth, beliefs and attitudes toward inclusion and disability, inclusive classrooms/school communities.
* Build a Professional Learning Community/Knowledge Sharing via ([www.bridgesSmartinclusion.pbworks.com](https://access.ucdsb.on.ca/f5-w-687474703a2f2f6f77612e6564752e75636473622e6f6e2e6361$$/owa/redir.aspx?C=0178a7138ce345a1b743989406a70277&URL=http%3a%2f%2fwww.bridgessmartinclusion.pbworks.com%2f))
* Contribute to theory of teacher beliefs and their role in teacher practices and student learning outcomes in inclusive classrooms;
* Increase student engagement and learning – ALL students.

**Measures/Strategies:**

* Assessment Points: January 2010; 2011; 2012
* School-Wide Inclusive Education Best Practice Indicators from Appendix C of Evidence ofEffective High School Inclusion. A research study funded by the Ontario Ministry of Education, February 2009. Integration Action for Inclusion in School and Community (Ontario); Centre for Inclusive Education, Faculty of Education, University of Western Ontario.
* Index for Inclusion: Developing Learning and Participation in Schools.  Centre for Studies on Inclusive Education (CSIE).  Booth, T. & Ainscow, M.  (2002). [http://www.inclusion.org.uk](https://access.ucdsb.on.ca/f5-w-687474703a2f2f6f77612e6564752e75636473622e6f6e2e6361$$/owa/redir.aspx?C=6c02e753eaf1441ab3aedefbab694116&URL=http%3a%2f%2fwww.inclusion.org.uk).
* Technology Adoption/Use: Phases of Adoption Rubric – Smart Tech with Stages of Technology Adoption from *The CEO Forum School Technology and Readiness Report — Professional Development: A Link to Better Learning*, Year Two, The CEO Forum on Education and Technology, February 22, 1999.
* Beliefs about Learning and Teaching Questionnaire; P-I beliefs interview; Attitudes towards Inclusion (Jordan, Schwartz, & McGhie-Richmond, 2009)
* Personal and Teacher Efficacy over time (DiBella-McCarthy, McDaniel, & Miller, 1995)
* Data points: June 2009; 2010; 2011; 2012
* EQAO tracking for a sample of schools, including Smart Schools.
* Videotaping: 4 teachers – 2 from Smart Schools; 2 from Smart Classrooms “A teacher’s journey to inclusion” (see Appendix B).
* Achievement scores – 2 or 3 test points over time - on selected subsample of students on special education staff caseloads (obtained in Smart Schools and Control[[16]](#footnote-16) Schools). Sample to be identified by July 2010 for pre-testing in September 2010.

Progress reports will be produced in July 2010; July 2011. A final report will be produced by October 2012. Conference submissions and journal articles may evolve out of this work over the course of the 2.5 years. We also hope to team with the curriculum department over this coming school year – they will work alongside us, guiding and coaching best general teaching practices. Our hope is that this dimension, important to effective classroom and teaching practice, can be described in rubric form and related to inclusion practice, technology adoption, and teacher beliefs/efficacy as we progress.

For more information contact:

Dr. Alison Inglis, C.Psych.

([alison.inglis@ucdsb.on.ca](mailto:alison.inglis@ucdsb.on.ca))

UCDSB Chief Psychologist

Rideau Education Centre

231 Hwy 29, Frankville, Ontario K0E 1H0

tel: 613-275-2928 ext. 2233 or 1-800-766-8474

fax:  613-275-2406

**Additional References – Partial Bibliography**

***Inclusion***

Baumgart, D., Brown, L., Pumpian, I., Nisbet, J., Ford, A., Sweet, M., Messina, R., & Schroeder, R. (1982). Principle of partial participation and individualized adaptations in educational programs for severely handicapped students. *Journal of the Association for Persons with Severe Handicaps, 7*(2), 17-27.

Brinker, R., & Thorpe, M. (1984). Integration of severely handicapped students and the proportion of IEP objectives achieved. *Exceptional Children, 51*(2), 168-175.

Calculator, S., & Jorgensen, C. (1994). *Including students with severe disabilities in schools: Fostering communication, interaction, and participation.* San Diego, CA: Singular Publishing Group, Inc.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching.* Alexandria, VA: The Association for Supervision and Curriculum Development.

Donnellan, A. (1984). The criterion of the least dangerous assumption. *Behavioral Disorders, 9,* 141-150.

Jackson, L., Ryndak, D., & Billingsley, F. (2000). Useful practices in inclusive education: A preliminary view of what experts in moderate to severe disabilities are saying. *The Journal of the Association for Persons with Severe Handicaps. 25*(3),129-141.

Kennedy, C., & Itkonen, T. (1994). Some effects of regular class participation on the social contacts and social networks of high school students with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 19,* 1-10.

Kleinert, H., & Kearns, J. (2001). *Alternate assessment: Measuring outcomes and supports for students with disabilities.* Baltimore: Paul A. Brookes Publishing Company.

McCarthy, C., McLean, L., Miller, J., Paul-Brown, D., Romski, M., Rourk, J., & Yoder, D. (1998). *Communication supports checklist for programs serving individuals with severe disabilities.* Baltimore: Paul H. Brookes Publishing Company.

McGregor, G., & Vogelsberg, R. (1998). *Inclusive schooling practices: Pedagogical and research foundations. A synthesis of the literature that informs best practices about inclusive schooling.* Baltimore, MD: Paul H. Brookes Publishing Company.

Meyer, L., & Eichinger, J. (1984). *Program quality indicators (PQI): A checklist of most promising practices in educational programs for students with disabilities, 3rd edition.* Syracuse: Syracuse University School of Education.

Ryndak, D., Morrison, A., & Sommerstein, L. (1999). Literacy before and after inclusion in general education settings: A case study. *Journal of the Association for Persons with Severe Handicaps, 24*(1),5-22.

Schaffner, C., & Buswell, B. (1991).  *Opening doors: Strategies for including all students in regular education.* Colorado Springs: PEAK Parent Center Inc.

Snell, M. (1993). *Instruction of students with severe disabilities.* New York: Macmillan Publishing Company.

Udvari-Solner, A. (1995). A process for adapting curriculum in inclusive classrooms. In R. Villa & J. Thousand (Eds.), *Creating an inclusive school* (pp. 110-124). Alexandria, VA: Association for Supervision and Curriculum Development.

***Teacher Belief/Efficacy/Practice***

Darling-Hammond, L. & Richardson, N (2009). Teacher learning: What matters. Educational Leadership, 66(5), 46-53.

DiBella-McCarthy, H., McDaniel, E.A., & Miller, R. (1995). How efficacious are you? *Teaching Exceptional Children, 27*(3), 68-72.

Englert, C. S., Tarrant, K., & Mariage, T. (1992). Defining and redefining instructional practice in special education: Perspectives on good teaching. *Teacher Education and Special Education, 15*(2), 62-86.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research*, *38*, 47-65.

Fenstermacher, G. D. & Richardson, V. (2005). On making determinations of teacher quality. *Teachers College Record, 107*(1), 186-213.

Giangreco, M.F., Dennis, R., Cloninger, C., Edelmann, S., Schattman, R. (1993). ‘I’ve counted Jon’: Transformation experiences of teachers educating students with disabilities. *Exceptional Children, 59*(4), 359-372.

Gibbs, S. (2007). Teachers’ perceptions of efficacy: Beliefs that support inclusion or segregation. *Educational and Child Psychology, 24*(3), 47-53.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record, 103*(6), 942-1012.

Guskey, T. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice. 8*(3/4), 381-391.

Hollins, E.R., & McIntyre, L. R., DeBose, C., Hollins, K. S., & Towner, A. (2004). Promoting a self-sustaining learning community*. International Journal of Qualitative Studies in Education,* 17(2), 247-264.

Hord, S. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory.

Jordan, A., Lindsay, L., & Stanovich, P. (1997). Classroom teachers’ instructional interactions with students who are exceptional, at risk, and typically achieving. *Remedial and Special Education, 18*, 82-93.

Jordan, A., Schwartz, E., & McGhie-Richmond (2009). Preparing teachers for inclusive classrooms. Teacher & Teacher Education, 25, 535-542.

Jordan, A., & Stanovich, P. J. (2003). Teachers’ personal epistemological beliefs about students with disabilities as indicators of effective teaching practices. *Journal of Research in Special Educational Needs*, [on-line], 3, available: http://www.nasen.org.uk

Jordan, A., & Stanovich, P. J. (2004). The beliefs and practices of Canadian teachers about including students with special needs in their regular elementary classrooms. *Exceptionality Education Canada, 14*, 25-46

Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist, 27*, 65 – 90.

McGhie-Richmond, D., Underwood, K. & Jordan, A, (2007). Developing Effective Instructional Strategies for Teaching in Inclusive Classrooms. *Exceptionality Education Canada, 1*7(1), 27-52.

McLaughlin, M. & Jordan, A. (2005). Push or pull: The forces that shape inclusion in the U.S.A. and Canada. In P. Mitchell (Ed.). *Contextualising inclusive education*. (p. 89-113). London: RoutledgeFalmer.

Salisbury, C. L. (2006). Principals’ perspectives on inclusive elementary schools. *Research and Practice for Persons with Severe Disabilities, 31*(1), 70-82.

Sherin, M. G. (2004). New perspectives on the role of video in teacher education. J. Brophy (Ed.), Using video in teacher education: *Advances in Research on Teaching (*Vol. 10, pp. 1-27). Oxford: Elsevier Press.

Stein, M. K., Smith, M. S., & Silver, E. A. (1999). The development of professional developers: Learning to assist teachers in new settings in new ways*. Harvard Educational Review, 69*(3), 237-269.

Strahan, D. (2003). Promoting collaborative professional culture in three elementary schools that have beaten the odds. *Elementary School Journal, 104*(2), 127-133.

Stanovich, P. & Jordan, A. (2000). Effective teaching as effective intervention. *Learning Disabilities: A Multi-disciplinary Journal. 10*(4) 235-238.

Stanovich, P. J., & Jordan, A. (2002). Preparing general educators to teach in inclusive classrooms: Some food for thought. *The Teacher Educator, 37*, 173-185.

White, R. & Jordan, A. What characteristics of elementary classroom teachers contribute to their professional growth in implementing inclusive classroom practices? Paper presented at the meeting of the International Study Association for Teachers and Teaching, Brock University, St. Catharines, Ont. July 2007.

***Technology References***

Becta (British Educational Communications and Technology Agency). (2004). Getting the most from your interactive whiteboard – A guide for primary schools. Coventry: UK (URL: [www.becta.org.uk](http://www.becta.org.uk)).

Carr, V.H. (date?). Technology Adoption and Diffusion. http://www.au.af.mil/au/awc/awcgate/innovation/adoptiondiffusion.htm

Hartley, J. (2007). Teaching, learning and new technology: a review for teachers. *British Journal of Educational Technology,* 38(1): 42-62.

Higgins, S., Beauchamp, G. & Miller, D. (2007). Reviewing the literature on interactive whiteboards. *Learning, Media and Technology*, 32(3): 213-225.

Lewin, C., Somekh, B. & Steadman, S. (2008). Embedding interactive whiteboards in teaching and learning: The process of change in pedagogic practice. *Educational Information Technology,* 13: 291-303.

Schweder, W. & Wissick, C.A. (2008). Content area applications (Associate Editor’s column). *Journal of Special Education Technology (JSET),* 23(1): 54-58.

Shenton, A. & Pagett, L. (2007). From ‘bored’ to screen : the use of the interactive whiteboard for literacy in six primary classrooms in England. Literacy, 41(3): 129-

Thompson, J. & Flecknoe, M. (2007). Raising attainment with an interactive whiteboard in Key Stage 2. *MiE,* 17(3): 29-

1. <http://www.edu.gov.on.ca/eng/policyfunding/EquityQuickFacts.pdf> [↑](#footnote-ref-1)
2. Beukelman, D., and Mirenda, P.  (1998).  *Augmentative and alternative communication: Management of severe communication disorders in children and adults (2nd ed.)*, Baltimore: Paul H. Brookes. [↑](#footnote-ref-2)
3. SEA equipment was ordered for 12 students. Data on 2 of those students is unavailable (one moved; one parent did not consent to further data collection). Data were collected on an additional 6 students with disabilities within the same classrooms as target (SEA) students. [↑](#footnote-ref-3)
4. See Appendix A for more details on findings from 2008-2009. [↑](#footnote-ref-4)
5. Data continue to be collected and analyses are ongoing. [↑](#footnote-ref-5)
6. With thanks to Malcolm Gladwell. See “The Tipping Point – How Little Things Can Make A Big Difference” (2000, 2002) and Gladwell’s discussion on the three agents of change – the law of the few, the stickiness factor, and the power of context. [↑](#footnote-ref-6)
7. One of the most popular and widely used of the AT and peripherals in Smart Inclusion classrooms. [↑](#footnote-ref-7)
8. These schools already have a few Smart Boards within their buildings. [↑](#footnote-ref-8)
9. Burstein, N., Sears, S., Wilcoxen, A., Cabello, B. & Spagna, M. (2004). Moving Toward Inclusive Practices. *Remedial and Special Education, 25* (2), 104-116. [↑](#footnote-ref-9)
10. Burge, P., Ouellette-Kuntz, H., & Hutchinson, N. (2008). A Quarter Century of Inclusive Education for Children with Intellectual Disabilities in Ontario: Public Perceptions.*Canadian Journal of Educational Administration and Policy, 87*, 1-18. [↑](#footnote-ref-10)
11. For a review of this research: McGregor, G., & Vogelsberg, R. (1998). *Inclusive schooling practices: Pedagogical and research foundations. A synthesis of the literature that informs best practices about inclusive schooling.* Baltimore, MD: Paul H. Brookes Publishing Company. [↑](#footnote-ref-11)
12. Manset, G., & Semmel, M. (1997). Are inclusive programs for students with mild disabilities effective? A comparative review of model programs. Journal of Special Education, 31(2), 155-181. [↑](#footnote-ref-12)
13. APPENDIX B Literature Review: Inclusive Best Practices in High School Education. In Evidence of Effective High School Inclusion: Research, Resources and Inspiration A research study funded by the Ontario Ministry of Education, February 2009. Conducted by Integration Action for Inclusion in School and Community (Ontario); Centre for Inclusive Education, Faculty of Education, University of Western Ontario [↑](#footnote-ref-13)
14. Soodak, L. C., Podell, D. M., & Lehman, L. R. (1998). Teacher, student, and school attributes as predictors of teachers’ responses to inclusion. *The Journal of Special Education, 31*(4), 480-497 [↑](#footnote-ref-14)
15. Professional Learning Communities; Training methods, structures; Partnerships within and between departments, agencies, industry; Teaching methods, curriculum. [↑](#footnote-ref-15)
16. Control schools will be selected by geographical proximity to a Smart School and by size. Student demographic and language skills will be matched/controlled to whatever extent is possible. [↑](#footnote-ref-16)